

**REMARKS**

Applicant submits this response to the final Office Action mailed September 29, 2004. Claims 23-34 and 58-79 are pending in the Application. Claims 23-27, 31, 33, 59-65, 67-70 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 5,956,016 to Kuenzner et al. Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuenzner et al. in view of U.S Patent No. 5,631,669 to Stobbs. Claims 28, 30, 32, 34, 58, 66, 71-79 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuenzner et al. in view of U.S. Patent No. 5,450,079 to Dunaway. Applicant respectfully traverses the Examiner's rejections.

Applicant has amended claims 71 and 74. The amendments are discussed in further detail below. Support for the amendments may be found in the specification and the original claims. No new matter has been added.

Reconsideration of the pending claims is respectfully requested in view of the remarks below.

**I. Claims 23-27, 31, 33, 59-65, and 67-70, § 102(e)**

Claims 23-27, 31, 33, 59-65, and 67-70 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 5,956,016 to Kuenzner et al. To reject a claim as anticipated under 102(e), the reference must teach each and every element of the claim, either expressly or inherently. MPEP § 2131. Kuenzner et al. does not teach each and every element of claim 23.

In independent claim 23, Applicant claims “[a]n apparatus comprising: a manipulandum movable in at least one degree of freedom; a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position and to output a first sensor signal associated with said deviation of said manipulandum from said position; an actuator operable to provide tactile feedback to said manipulandum associated with said first sensor signal; and a first processor operable to control said actuator and to receive said first sensor signal from said sensor.”

Kuenzner et al., however, does not disclose “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position.” The Examiner states that “Kuenzner discloses an apparatus (Fig. 1) comprising . . . a sensor (13, Fig. 1, also see col. 2, lines 56-57) operable to detect a position of the manipulandum and a deviation of the manipulandum from the position . . .” Office Action, page 2. Kuenzner et al. teaches that “[t]he movement of pusher 9 on carriage 8 is detected by a continuous toothed belt 12 and converted by rotatable shaft 6’ of guide 6 into a rotary movement. This rotary movement is detected by an electric motor 13 and converted into positioning commands for cursor 4” (col. 2, lines 53-58). Kuenzner et al. further teaches that “[w]ith the aid of electric motor 13, it is also possible to reinforce the movement of pusher 9 or to provide haptic feedback to the user. For this purpose, electric motor 13 can be controlled by position detection, not shown, so that the motor . . . applies a torque to toothed belt 12 and hence to pusher 9 . . .” (col 2. lines 58-64, emphasis added). Therefore, Kuenzner et al.

requires a separate position detector (not shown) to control the motor when the motor is used to reinforce the movement of the pusher or provide haptic feedback to the user. The *movement* of the pusher is detected by the motor via the toothed belt, and the *position* of the pusher is detected by a separate position detector, which is not shown. The present invention employs one sensor to detect both position and deviation and therefore contains a limitation not disclosed in Kuenzner.

Thus, because the cited reference does not teach every aspect of the claimed invention either explicitly or impliedly, Applicants respectfully request that the rejection of claim 23 be withdrawn.

With regard to claims 24-27, 31, 33, 59-65, and 67-70, all of which depend from independent claim 23, Applicants do not acquiesce to the rejections in the Office Action; rather, Applicants believe that these claims are allowable for at least the same reasons given above for the independent claim 23.

For all of the above reasons, the Office is respectfully requested to withdraw the rejections of claims 23-27, 31, 33, 59-65, and 67-70 under 35 USC § 102(e).

## **II. Claim 29, § 103(a)**

Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuenzner et al. in view of U.S Patent No. 5,631,669 to Stobbs. Claim 29 depends ultimately from independent claim 23.

One of the criteria for a *prima facie* case of obviousness is that “the prior art reference (or references when combined) must teach or suggest all the claim

limitations.” *See* MPEP § 2143. The cited references do not teach or suggest all the claim elements of independent claim 23.

Dependent claims include all of the elements of the claim from which they depend. Thus, dependent claim 29 includes “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position.” As discussed above, Kuenzner et al. does not disclose “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position,” as claimed.

The Office Action cites Stobbs for teaching “a microphone within the input device.” Office Action, page 4. Stobbs, however, does not disclose an apparatus that includes “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position,” as claimed. Thus, neither Kuenzner et al. nor Stobbs teaches or suggests, singularly or in combination, all the claim elements of claim 29.

As neither Kuenzner et al. nor Stobbs teaches or suggests, singularly or in combination, all the claim elements of claim 29, Applicant respectfully submits that claim 29 is patentable over Kuenzner et al. in view of Stobbs. Accordingly, the rejection to claim 29 should be withdrawn and the claim allowed.

### **III. Claims 28, 30, 32, 34, 58, 66, and 71-79, § 103(a)**

Claims 28, 30, 32, 34, 58, 66, 71-79 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuenzner et al. in view of U.S. Patent No. 5,450,079 to

Dunaway. Claims 28, 30, 32, 34, 58, and 66 depend ultimately from independent claim 23. Claims 72-79 depend ultimately from independent claim 71.

Claims 28, 30, 32, 34, 58, and 66

One of the criteria for a *prima facie* case of obviousness is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” *See MPEP § 2143*. The cited references do not teach or suggest all the claim elements of independent claim 23.

Dependent claims include all of the elements of the claim from which they depend. Thus, dependent claims 28, 30, 32, 34, 58, and 66 include “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position.” As discussed above, Kuenzner et al. does not disclose “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position,” as claimed.

The Office Action cites Dunaway for teaching “a remote input device for controlling the menu or the screen which comprises a second processor (72).” Office Action, page 4. The Office Action also cites Dunaway for teaching “the input device including a local display screen with touch panel.” Office Action, page 5. Dunaway, however, does not disclose an apparatus that includes “a sensor operable to detect a position of said manipulandum and a deviation of said manipulandum from said position,” as claimed. Thus, neither Kuenzner et al. nor Dunaway teaches or suggests, singularly or in combination, all the claim elements of each of claims 28, 30, 32, 34, 58, and 66.

As neither Kuenzner et al. nor Dunaway teaches or suggests, singularly or in combination, all the claim elements of each of claims 28, 30, 32, 34, 58, and 66, Applicant respectfully submits that claims 28, 30, 32, 34, 58, and 66 are each patentable over Kuenzner et al. in view of Dunaway. Accordingly, the rejection to claims 28, 30, 32, 34, 58, and 66 should be withdrawn and the claims allowed.

Claims 71-79

One of the criteria for a *prima facie* case of obviousness is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” *See MPEP § 2143.* The cited references do not teach or suggest all the claim elements of independent claim 71.

In amended independent claim 71, Applicant claims “[a]n apparatus comprising: a manipulandum operable to be displaced in at least one degree of freedom; a sensor operable to detect a motion of said manipulandum and to output a first signal associated with a detected motion of said manipulandum; an actuator operable to output a force to said manipulandum associated with said first signal; a first processor operable to control said actuator and to receive said first signal from said sensor; and a second processor in communication with said first processor, said second processor operable to control said first processor, *wherein said sensor is operable to detect a first position of said manipulandum, a second position of said manipulandum, and an amount of a deviation between said first and second positions* and to output a second signal that associates with said first position, a third signal that associates with said second position, and a fourth signal that associates with said

amount of said deviation, said first processor operable to receive said second, third, and fourth signals."

Kuenzner et al., however, does not disclose a "sensor operable to detect a first position of said manipulandum, a second position of said manipulandum, and an amount of a deviation between said first and second positions . . ." As stated above, Kuenzner et al. teaches a motor to detect movement and a separate position detector to detect positng. Therefore, Kuenzner et al. does not teach a sensor operable to detect a first position of said manipulandum, a second position of said manipulandum, and an amount of a deviation between said first and second positions, as claimed.

The Office Action cites Dunaway for teaching "a remote input device for controlling the menu or the screen which comprises a second processor (72)." Office Action, page 4. The Office Action also cites Dunaway for teaching "the input device including a local display screen with touch panel." Office Action, page 5. Dunaway, however, does not disclose an apparatus that includes "a sensor operable to detect a motion of said manipulandum," as claimed. Thus, neither Kuenzner et al. nor Dunaway teaches or suggests, singularly or in combination, all the claim elements of independent claim 71.

Dependent claims include all of the elements of the claim from which they depend. Thus, dependent claims 72 and 74-79 include "sensor operable to detect a first position of said manipulandum, a second position of said manipulandum, and an amount of a deviation between said first and second positions." Thus, neither

Kuenzner et al. nor Dunaway teaches or suggests, singularly or in combination, all the claim elements of each of claims 72 and 74-79. Claim 73 has been canceled herein.

As neither Kuenzner et al. nor Dunaway teaches or suggests, singularly or in combination, all the claim elements of each of claims 71, 72 and 74-79, Applicant respectfully submits that claims 71, 72, and 74-79 are each patentable over Kuenzner et al. in view of Dunaway. Accordingly, the rejection to claims 71, 72 and 74-79 should be withdrawn and the claims allowed.

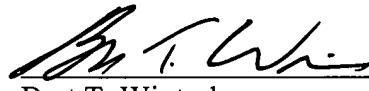
For all of the above reasons, the Office is respectfully requested to withdraw the rejections of claims 28, 30, 32, 34, 58, 66, 71, 72, and 74-79 under 35 USC § 103(a).

**CONCLUSION**

In view of the foregoing remarks, each of the pending claims is in condition for immediate allowance. Accordingly, the Examiner is requested to reconsider and withdraw the final rejection and to pass the application to issue. The Examiner is invited to contact the undersigned by telephone to discuss any matter related to the Application.

Respectfully submitted,

Dated: December 22, 2004



Bret T. Winterle  
Reg. No. 54,546

Kilpatrick Stockton LLP  
1001 West Fourth Street  
Winston-Salem, NC 27106-2400  
Telephone: (336) 607-7300  
Facsimile: (336) 607-7500

51851-280615  
WINLIB01:1109755.1